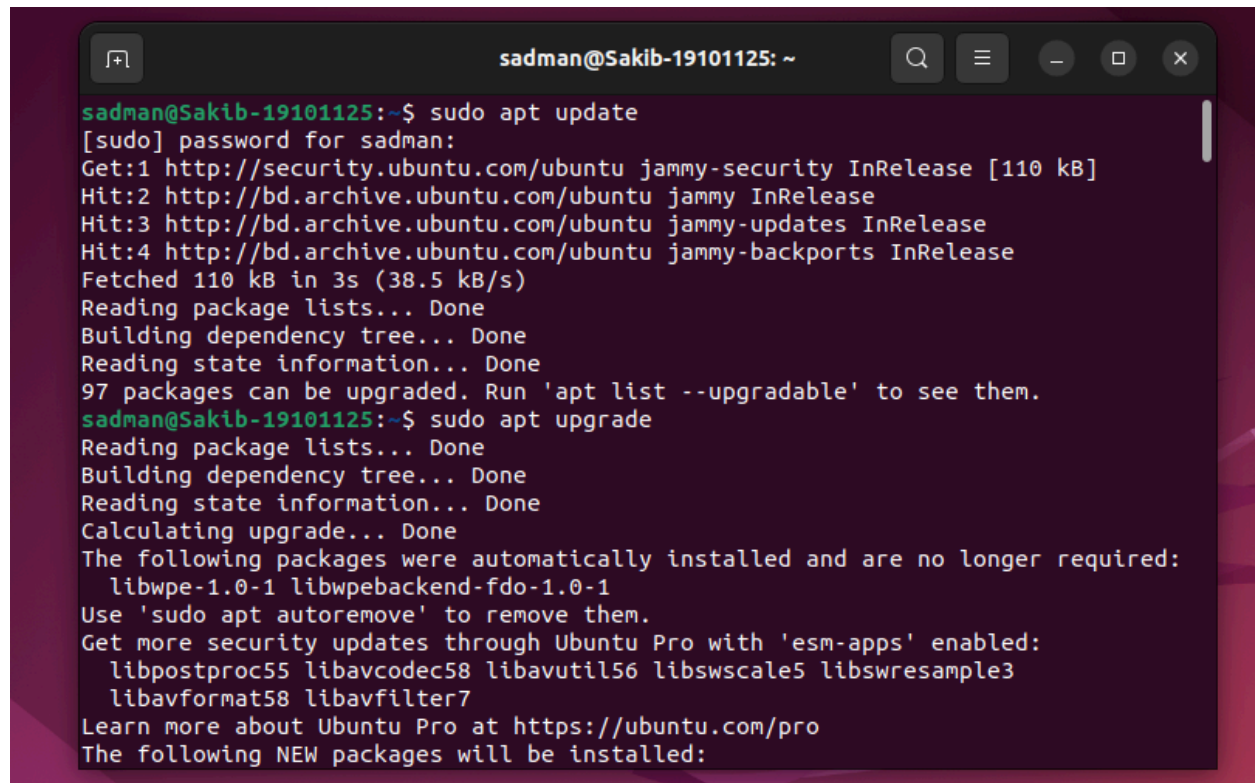


Part-1:Install KVM on Ubuntu 22.04

1) Update Ubuntu 22.04

Code: `$ sudo apt update`

A terminal window titled 'sadman@Sakib-19101125: ~' showing the execution of 'sudo apt update' and 'sudo apt upgrade'. The output of 'update' shows fetching package lists from various sources and identifying 97 upgradable packages. The output of 'upgrade' shows that some packages are no longer required and lists new packages to be installed.

```
sadman@Sakib-19101125:~$ sudo apt update
[sudo] password for sadman:
Get:1 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Hit:2 http://bd.archive.ubuntu.com/ubuntu jammy InRelease
Hit:3 http://bd.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:4 http://bd.archive.ubuntu.com/ubuntu jammy-backports InRelease
Fetched 110 kB in 3s (38.5 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
97 packages can be upgraded. Run 'apt list --upgradable' to see them.
sadman@Sakib-19101125:~$ sudo apt upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following packages were automatically installed and are no longer required:
  libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
Get more security updates through Ubuntu Pro with 'esm-apps' enabled:
  libpostproc55 libavcodec58 libavutil56 libswscale5 libswresample3
  libavformat58 libavfilter7
Learn more about Ubuntu Pro at https://ubuntu.com/pro
The following NEW packages will be installed:
```

2) Check if Virtualization is enabled

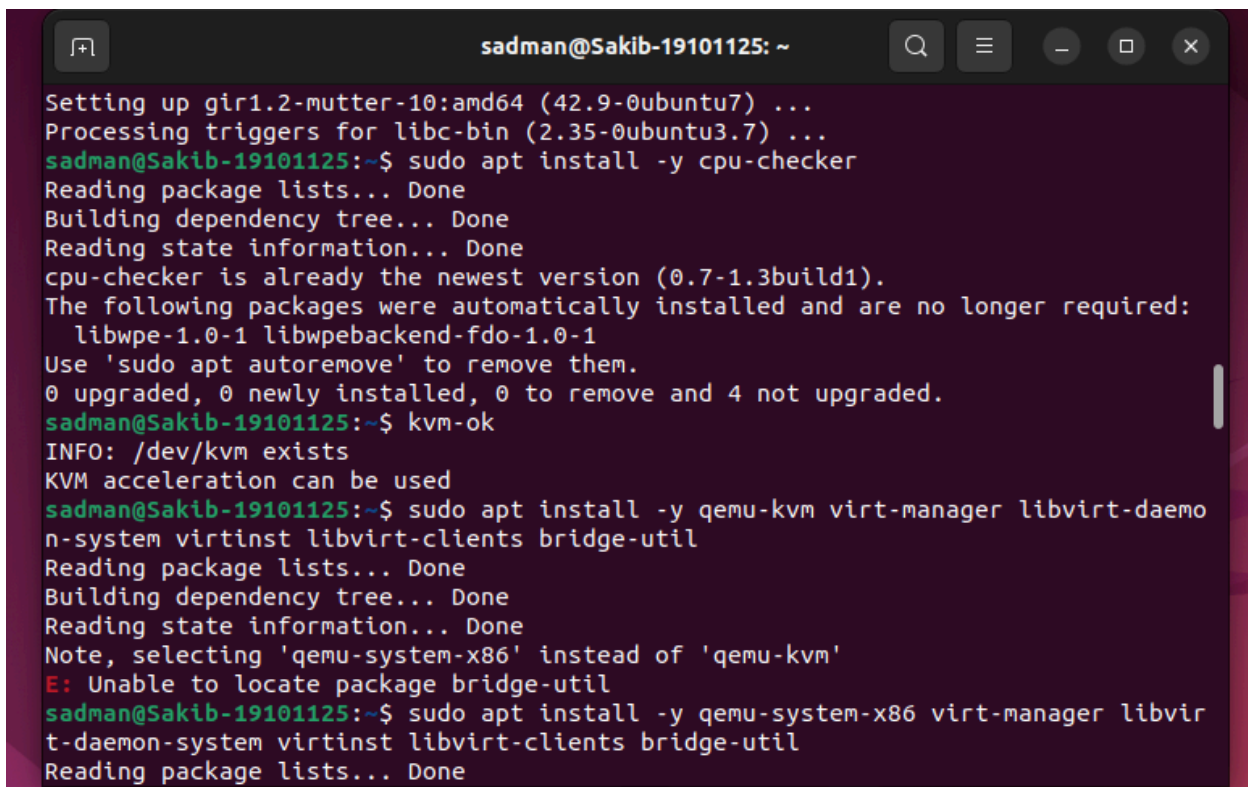
`$ egrep -c '(vmx|svm)' /proc/cpuinfo`

Verifying if KVM virtualization is enabled by running the following command:

```
$ kvm-ok
```

Installing the cpu-checker package as follows:

```
$ sudo apt install -y cpu-checker
```

A terminal window titled 'sadman@Sakib-19101125: ~' with standard Ubuntu window controls. The terminal output shows the installation of 'cpu-checker' and the verification of KVM acceleration. It then shows the installation of 'qemu-kvm', 'virt-manager', and other related packages. A note indicates that 'qemu-system-x86' was selected instead of 'qemu-kvm'. An error message 'E: Unable to locate package bridge-util' is shown, followed by the installation of 'qemu-system-x86' and other packages.

```
sadman@Sakib-19101125: ~  
Setting up gir1.2-mutter-10:amd64 (42.9-0ubuntu7) ...  
Processing triggers for libc-bin (2.35-0ubuntu3.7) ...  
sadman@Sakib-19101125:~$ sudo apt install -y cpu-checker  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
cpu-checker is already the newest version (0.7-1.3build1).  
The following packages were automatically installed and are no longer required:  
  libwpe-1.0-1 libwpebackend-fdo-1.0-1  
Use 'sudo apt autoremove' to remove them.  
0 upgraded, 0 newly installed, 0 to remove and 4 not upgraded.  
sadman@Sakib-19101125:~$ kvm-ok  
INFO: /dev/kvm exists  
KVM acceleration can be used  
sadman@Sakib-19101125:~$ sudo apt install -y qemu-kvm virt-manager libvirt-daemo  
n-system virtinst libvirt-clients bridge-util  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
Note, selecting 'qemu-system-x86' instead of 'qemu-kvm'  
E: Unable to locate package bridge-util  
sadman@Sakib-19101125:~$ sudo apt install -y qemu-system-x86 virt-manager libvir  
t-daemon-system virtinst libvirt-clients bridge-util  
Reading package lists... Done
```

3) Install KVM on Ubuntu 22.04

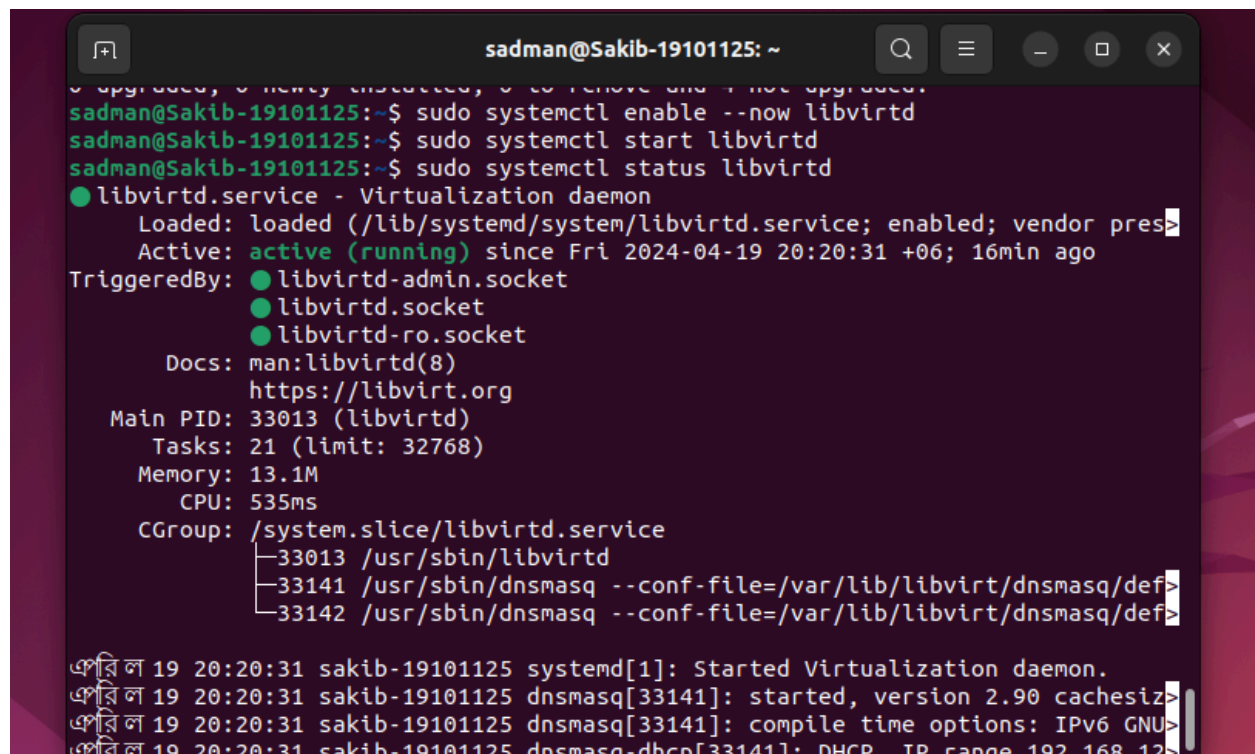
```
$ sudo apt install -y qemu-kvm virt-manager  
libvirt-daemon-system virtinst libvirt-clients bridge-utils
```

4) Start & Enable Virtualization Daemon

```
$ sudo systemctl enable --now libvirt  
$ sudo systemctl start libvirt
```

- Confirm that the virtualization daemon is running as shown:

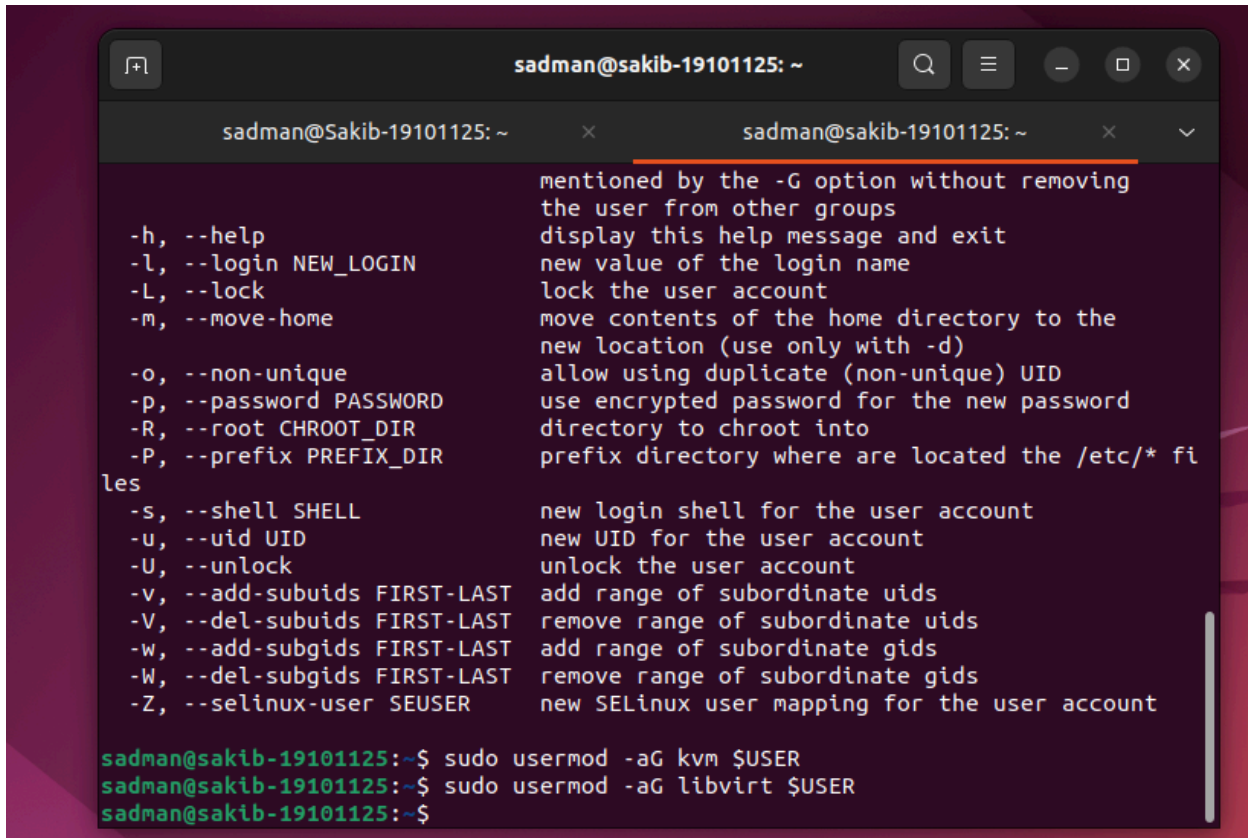
```
$ sudo systemctl status libvirt
```

A terminal window titled 'sadman@Sakib-19101125: ~' showing the output of the 'sudo systemctl status libvirt' command. The output indicates that the 'libvirtd.service' is 'active (running)' and provides details about its configuration, including its main PID (33013), tasks, memory usage, CPU time, and CGroup. It also lists the triggered services: 'libvirtd-admin.socket', 'libvirtd.socket', and 'libvirtd-ro.socket'. At the bottom, there are log messages from the system journal indicating the successful start of the 'libvirtd' daemon and the 'dnsmasq' services.

```
sadman@Sakib-19101125: ~  
sadman@Sakib-19101125:~$ sudo systemctl enable --now libvirt  
sadman@Sakib-19101125:~$ sudo systemctl start libvirt  
sadman@Sakib-19101125:~$ sudo systemctl status libvirt  
● libvirtd.service - Virtualization daemon  
   Loaded: loaded (/lib/systemd/system/libvirtd.service; enabled; vendor preset: enabled)  
   Active: active (running) since Fri 2024-04-19 20:20:31 +06; 16min ago  
 TriggeredBy: ● libvirtd-admin.socket  
               ● libvirtd.socket  
               ● libvirtd-ro.socket  
   Docs: man:libvirtd(8)  
         https://libvirt.org  
 Main PID: 33013 (libvirtd)  
   Tasks: 21 (limit: 32768)  
  Memory: 13.1M  
    CPU: 535ms  
   CGroup: /system.slice/libvirtd.service  
           └─33013 /usr/sbin/libvirtd  
             └─33141 /usr/sbin/dnsmasq --conf-file=/var/lib/libvirt/dnsmasq/default.conf  
               └─33142 /usr/sbin/dnsmasq --conf-file=/var/lib/libvirt/dnsmasq/default.conf  
  
এপ্রিল 19 20:20:31 sakib-19101125 systemd[1]: Started Virtualization daemon.  
এপ্রিল 19 20:20:31 sakib-19101125 dnsmasq[33141]: started, version 2.90 cachesize 128  
এপ্রিল 19 20:20:31 sakib-19101125 dnsmasq[33141]: compile time options: IPV6 GNU  
এপ্রিল 19 20:20:31 sakib-19101125 dnsmasq-dhcp[33141]: DHCP IP range 192.168.1.2
```

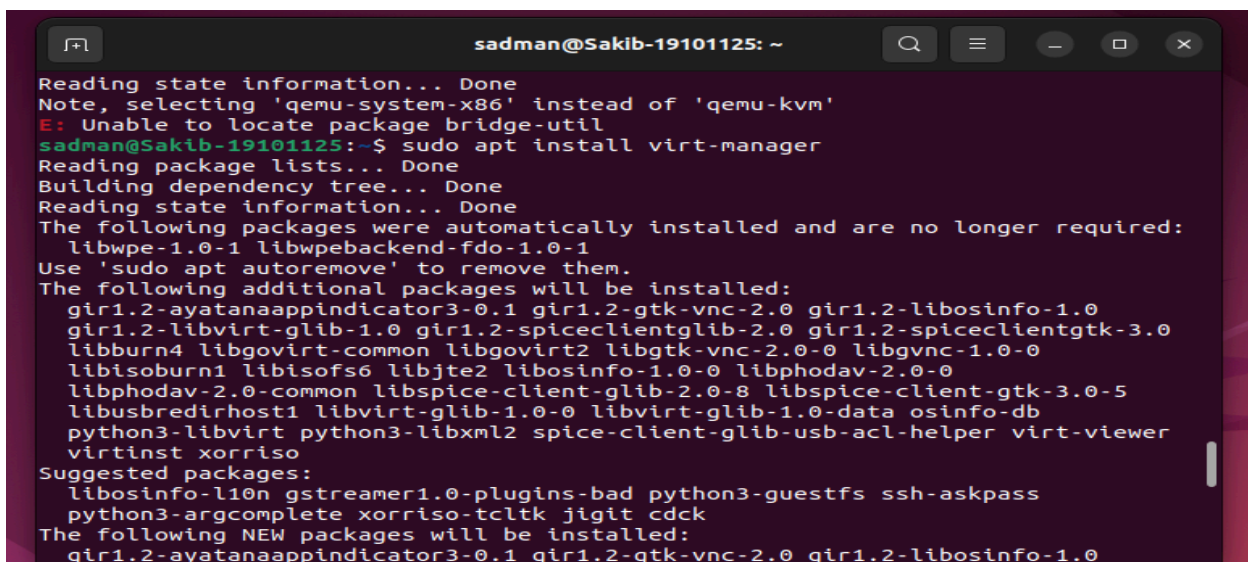
- Need to add the currently logged-in user to the kvm and libvirt groups:

```
$ sudo usermod -aG kvm $USER
$ sudo usermod -aG libvirt $USER
```



```
sadman@sakib-19101125: ~
sadman@sakib-19101125: ~
mentioned by the -G option without removing
the user from other groups
display this help message and exit
new value of the login name
lock the user account
move contents of the home directory to the
new location (use only with -d)
allow using duplicate (non-unique) UID
use encrypted password for the new password
directory to chroot into
prefix directory where are located the /etc/* fi
les
-h, --help
-l, --login NEW_LOGIN
-L, --lock
-m, --move-home
-o, --non-unique
-p, --password PASSWORD
-R, --root CHROOT_DIR
-P, --prefix PREFIX_DIR
-s, --shell SHELL
-u, --uid UID
-U, --unlock
-v, --add-subuids FIRST-LAST
-V, --del-subuids FIRST-LAST
-W, --add-subgids FIRST-LAST
-w, --del-subgids FIRST-LAST
-Z, --selinux-user SEUSER
new login shell for the user account
new UID for the user account
unlock the user account
add range of subordinate uids
remove range of subordinate uids
add range of subordinate gids
remove range of subordinate gids
new SELinux user mapping for the user account

sadman@sakib-19101125:~$ sudo usermod -aG kvm $USER
sadman@sakib-19101125:~$ sudo usermod -aG libvirt $USER
sadman@sakib-19101125:~$
```



```
sadman@sakib-19101125: ~
Reading state information... Done
Note, selecting 'qemu-system-x86' instead of 'qemu-kvm'
E: Unable to locate package bridge-util
sadman@sakib-19101125:~$ sudo apt install virt-manager
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
 libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
 gir1.2-ayatanaappindicator3-0.1 gir1.2-gtk-vnc-2.0 gir1.2-libosinfo-1.0
 gir1.2-libvirt-glib-1.0 gir1.2-spiceclientglib-2.0 gir1.2-spiceclientgtk-3.0
 libburn4 libgovirt-common libgovirt2 libgtk-vnc-2.0-0 libgvnc-1.0-0
 libisoburn1 libisofs6 libjte2 libosinfo-1.0-0 libphodav-2.0-0
 libphodav-2.0-common libspice-client-glib-2.0-8 libspice-client-gtk-3.0-5
 libusbredirhost1 libvirt-glib-1.0-0 libvirt-glib-1.0-data osinfo-db
 python3-libvirt python3-libxml2 spice-client-glib-usb-acl-helper virt-viewer
 virtinst xorriso
Suggested packages:
 libosinfo-l10n gstreamer1.0-plugins-bad python3-guestfs ssh-askpass
 python3-argcomplete xorriso-tcltk jiglit cdck
The following NEW packages will be installed:
 gir1.2-ayatanaappindicator3-0.1 gir1.2-gtk-vnc-2.0 gir1.2-libosinfo-1.0
```

```

sadman@Sakib-19101125: ~
Processing triggers for gnome-shell-extension (0.17-2) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu3) ...
Processing triggers for libglib2.0-0:amd64 (2.72.4-0ubuntu2.2) ...
Processing triggers for libc-bin (2.35-0ubuntu3.7) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for shared-mime-info (2.1-2) ...
Processing triggers for install-info (6.8-4build1) ...
sadman@Sakib-19101125:~$ sudo apt install -y qemu-kvm virt-manager libvirt-daemon-system virtinst libvirt-clients bridge-utils
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'qemu-system-x86' instead of 'qemu-kvm'
bridge-utils is already the newest version (1.7-1ubuntu3).
virt-manager is already the newest version (1:4.0.0-1).
virtinst is already the newest version (1:4.0.0-1).
virtinst set to manually installed.
libvirt-clients is already the newest version (8.0.0-1ubuntu7.10).
libvirt-clients set to manually installed.
libvirt-daemon-system is already the newest version (8.0.0-1ubuntu7.10).
qemu-system-x86 is already the newest version (1:6.2+dfsg-2ubuntu6.19).
The following packages were automatically installed and are no longer required:
  libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 4 not upgraded.

```

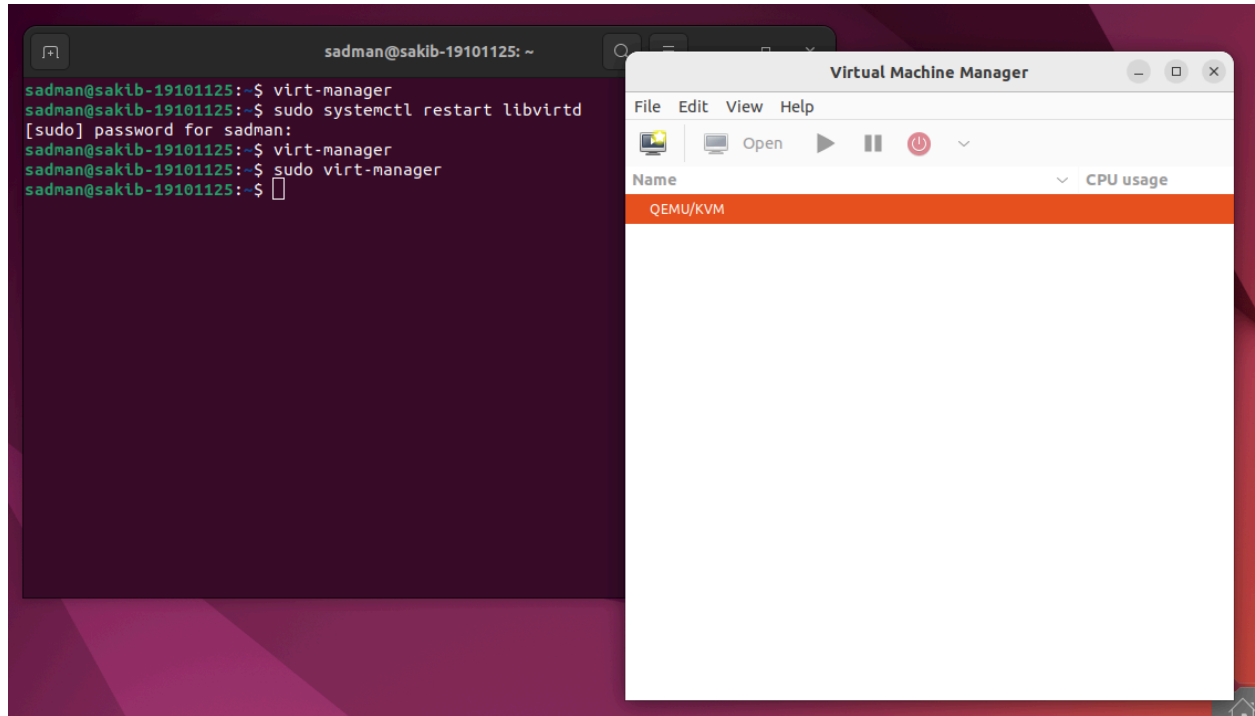
```

sadman@Sakib-19101125: ~
sadman@Sakib-19101125:~$ sudo systemctl enable --now libvirtd
Failed to enable unit: Unit file libvirtd.service does not exist.
sadman@Sakib-19101125:~$ sudo apt install qemu-kvm libvirt-daemon-system
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'qemu-system-x86' instead of 'qemu-kvm'
The following packages were automatically installed and are no longer required:
  libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  dmideventd ibverbs-providers ipxe-qemu ipxe-qemu-256k-compatible-efi-roms jq
  libaio1 libcacard0 libdaxctl1 libdecor-0-0 libdecor-0-plugin-1-cairo
  libdevmapper-event1.02.1 libfdt1 libgfat1 libgfrpc0 libgfxdr0 libglusterfs0
  libibverbs1 libiscsi7 libjq1 liblvm2cmd2.03 libndctl6 libnss-mymachines
  libonig5 libpmem1 libpmemobj1 librados2 librbd1 librdmacm1 libsd2-2.0-0
  libslirp0 libspice-server1 libtpms0 liburing2 libusbredirparser1
  libvirglrenderer1 libvirt-clients libvirt-daemon
  libvirt-daemon-config-network libvirt-daemon-config-nwfilter
  libvirt-daemon-driver-qemu libvirt-daemon-system-systemd libvirt0
  libxml2-utils lvm2 mdevctl ovmf qemu-block-extra qemu-system-common
  qemu-system-data qemu-system-gui qemu-utils seabios swtpm swtpm-tools
  systemd-container thin-provisioning-tools
Suggested packages:

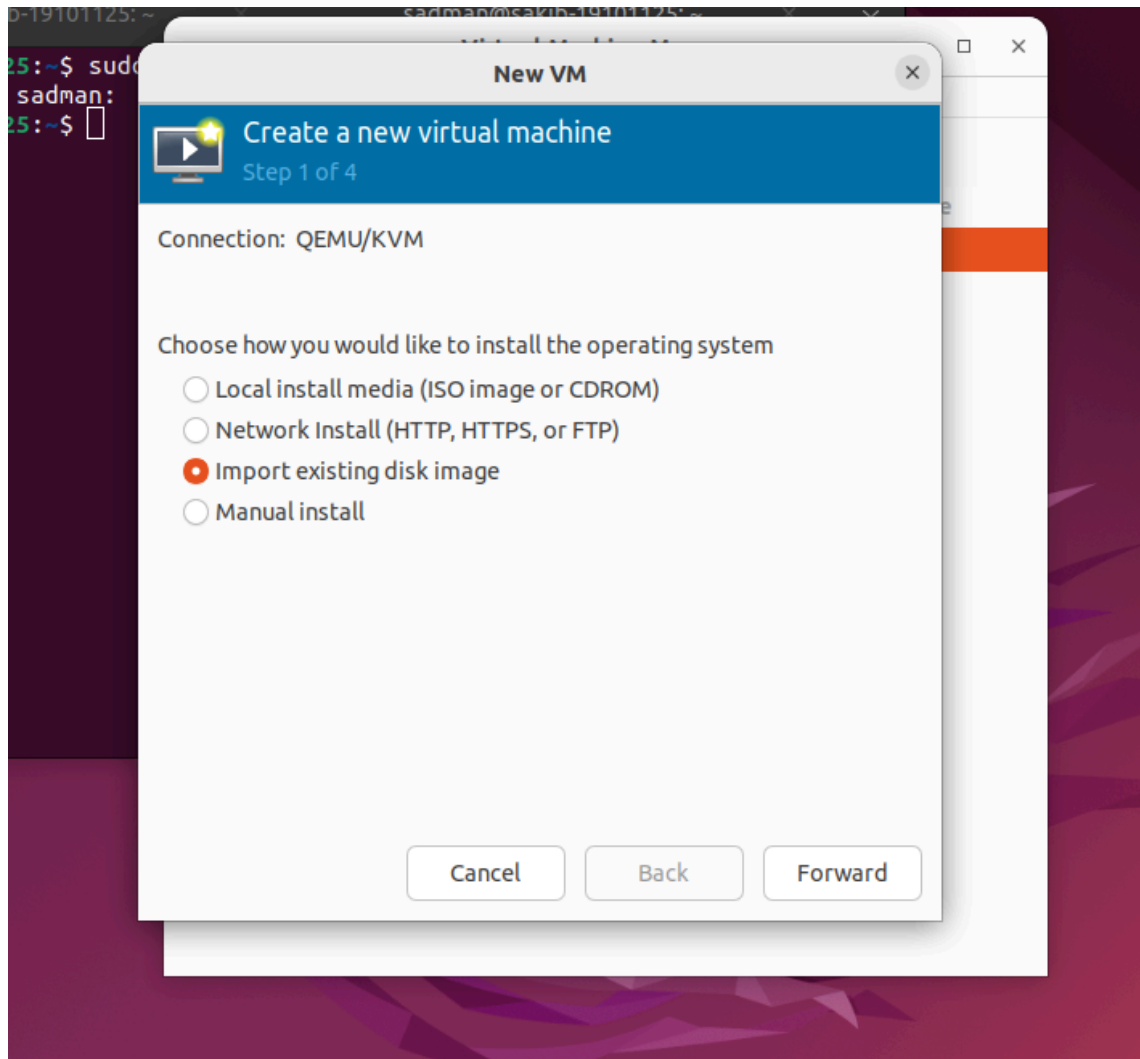
```

Part 2: Creating VM Using VMM using GUI

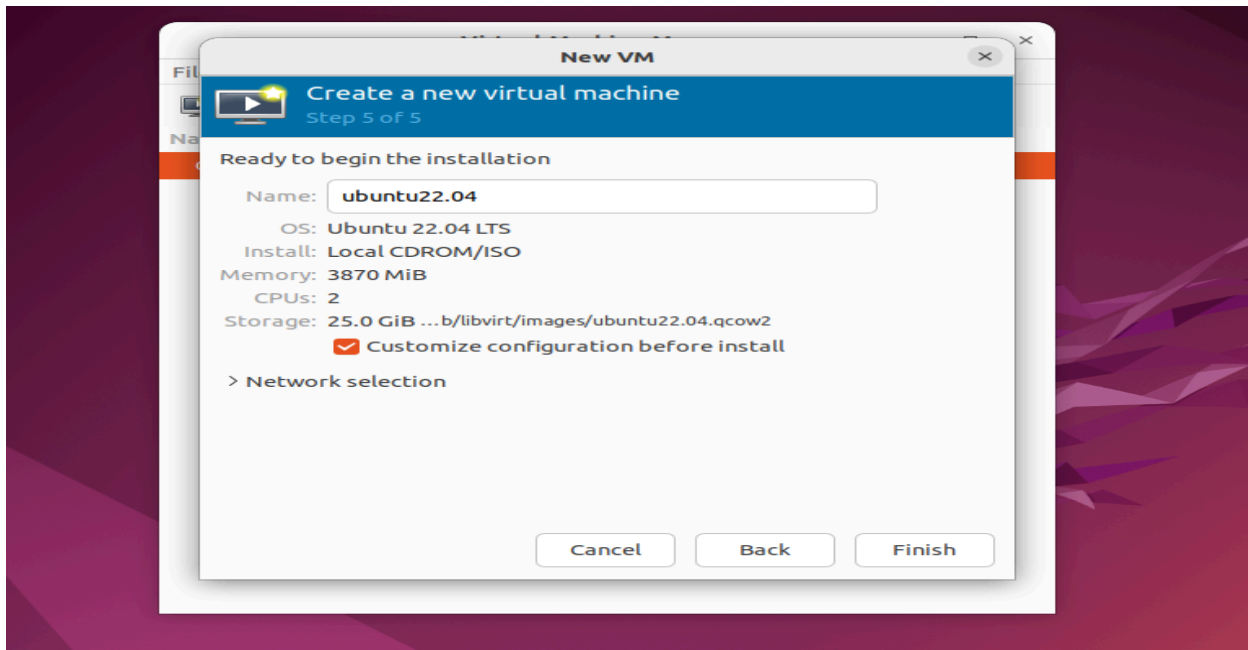
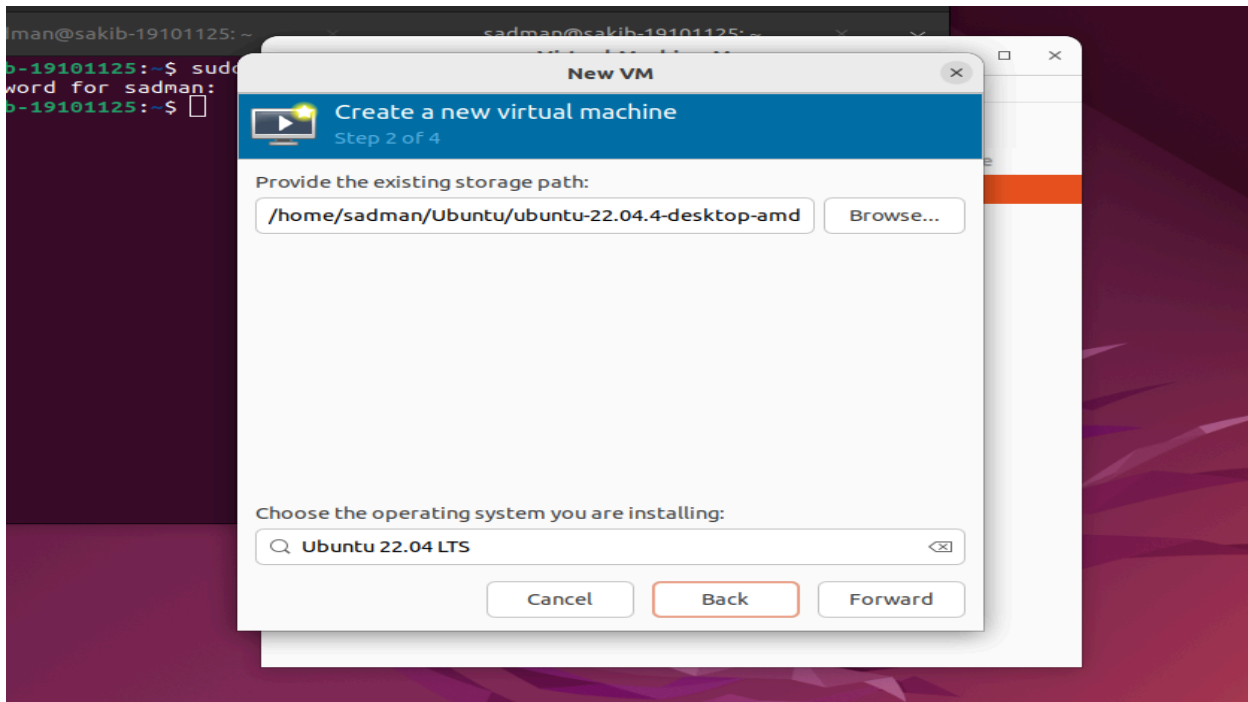
- Starting Virt Manager and Select “New Virtual Machine” from the “File” Tab

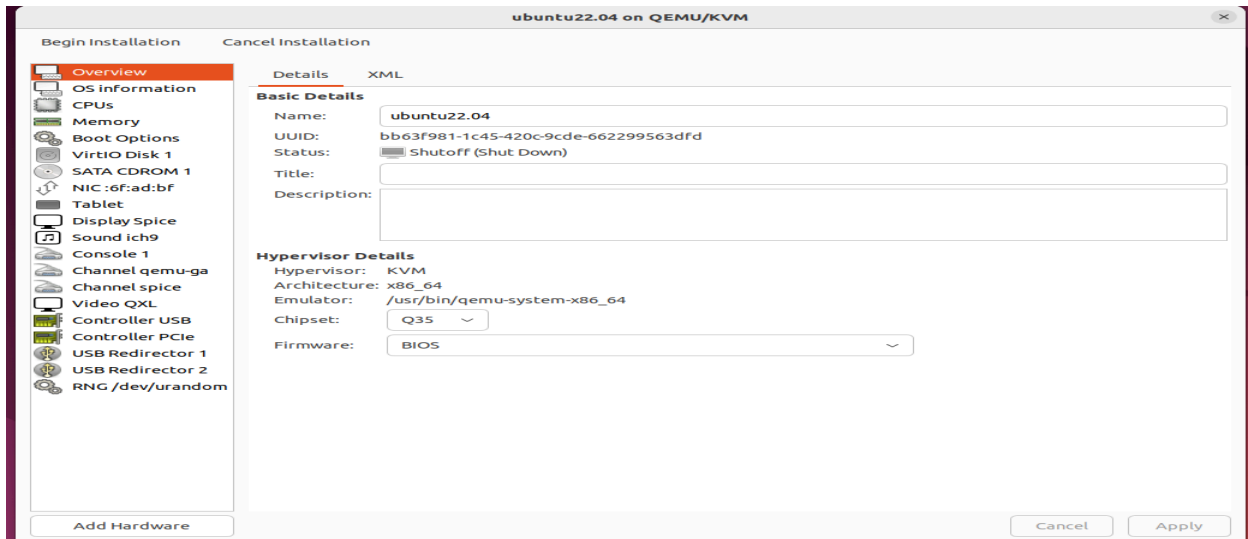


- Connection with Qemu/KVM is properly established. Select Local Install Media.

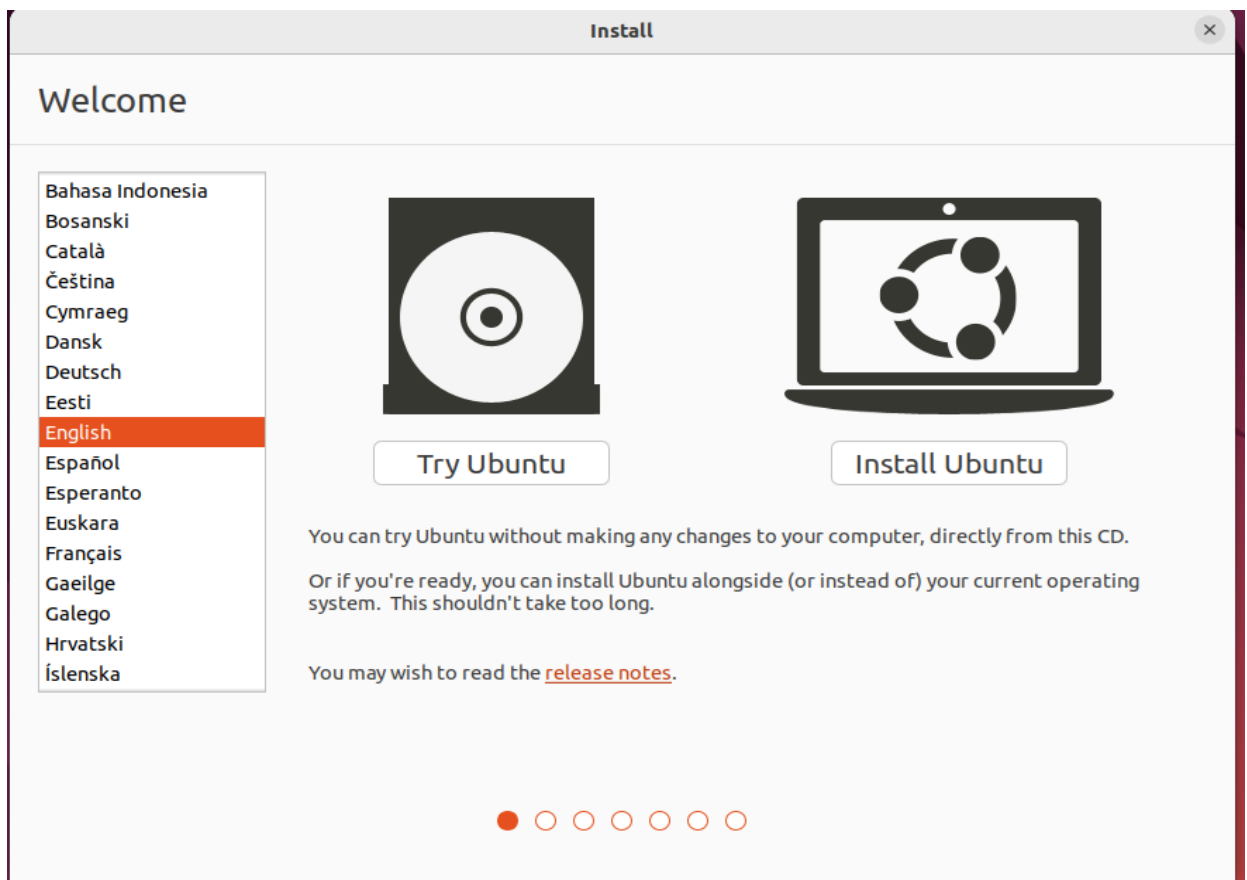


- Locate the iso Image from the local directory.





- Installation Ubuntu 22.04



Updates and other software

What apps would you like to install to start with?

☐ Normal installation

Web browser, utilities, office software, games, and media players.

☒ Minimal installation

Web browser and basic utilities.

Other options

☒ Download updates while installing Ubuntu

This saves time after installation.

☐ Install third-party software for graphics and Wi-Fi hardware and additional media formats

This software is subject to license terms included with its documentation. Some is proprietary.

Quit

Back

Continue



